Vitamin E Inquiry Request

Vitamin E inquiry request into its effect on Covid symptoms
by Anthony of Boston

Covid-19 is a disease caused by severe acute respiratory syndrome coronavirus 2. The outbreak originated in Wuhan, China in December of 2019. It began to spread globally around mid-January of 2020. In March of that year, The World Health Organization officially recognized it as a pandemic disease. The most common symptoms of Covid-19 infection are fever, fatigue, cough, and shortness of breath. The most significant effects of Covid-19 are inflammation and oxidative stress which lead to Acute Respiratory Distress Syndrome (ARDS) and organ damage. The most common symptom which leads to hospital admission is shortness of breath. This paper is intended to make a case for the isolated use of Vitamin E as a measure that could hypothetically alleviate symptomatic fatigue and shortness of breath in Covid-19 infections and thus possibly reduce hospital and ICU admission.

Starting in 2020 a number of vaccines have been rolled out to be administered to the general population. The Moderna vaccine developed in Cambridge Massachusetts has been confirmed in clinical trials to have a 94% efficacy. The ASTRAZENECA ChAdOx1 vaccine, developed by the University of Oxford in the UK has an efficacy of 90%. The vaccine was also tested in Brazil, the US, India and South Africa. In 2020, German and US companies BioNtech and Pfizer began testing the BNT162 vaccine. It was found to have a 95% efficacy—a 94% efficacy in 65 and older. US company Johnson and Johnson developed a vaccine that has an 85% efficacy.

Early indications showed that the vaccines reduced the chance of infection and spread. The efficacy of the vaccines, however, began to drop as the new Delta variant of Covid-19 began to spread worldwide. It originated in India in February of 2021 and is confirmed to be much more infectious and transmissible than the original alpha variant. The efficacy of the vaccines are reduced against the Delta variant according to some

studies. The percent reduction varies. A US study found that the PfizerBioNtech vaccine efficacy against Delta is 88%, while an Israeli study finds that the same vaccine is only 64%. effective.

In June and July of 2021, a small number of breakthrough cases have been reported globally. Both partially and fully vaccinated have been testing positive for Covid-19 with mild symptoms. A few have been admitted to the hospital with more severe symptoms and some have been admitted to ICU. This has corresponded with a larger surge of Covid-19 infections in unvaccinated, many of whom are hesitant to receive the Covid-19 vaccine. Hospitals have reported that a greater percentage of those hospitalized and admitted to ICU with severe Covid infection are unvaccinated. It has also been reported that a greater number of unvaccinated young people are being hospitalized with severe cases as a result of the Delta variant.

Hospital space has become a key issue in this recent surge. The unvaccinated cases are taking up a great deal of ICU space and oxygen demand. This paper is a request for an inquiry into "Vitamin E" as a potential remedy for shortness of breath and fatigue issues. A study (DOI:10.34172/ipp.2021.xx) done in Iran in 2020 found that Vitamin C and E provide only a slight and insignificant benefit in hospitalized non-severe Covid patients:

Hospitalized non-severe COVID-19 patients were randomly divided into two groups—intervention and control. The intervention group would receive oral vitamin C 1000 mg daily plus oral vitamin E 400 IU daily in addition to the national standard treatment regimen (hydroxychloroquine). The control group would receive the standard regimen of hydroxychloroquine alone. The testing was measured during the hospitalization period until hospital discharge or ICU admission. "The clinical response of patients at the end of treatment (either cure, improvement, or failure), the duration of hospitalization, and the mortality rate were recorded and compared between the groups."

Vitamin E Inquiry Request

"Results: During the study, three patients in the intervention group (7.89%) and five patients in the control group (14.71%) had treatment failure, while all other patients had clinical improvement (P = 0.380). The duration of hospitalization was shorter in the intervention group (7.95 ± 3.18 days) compared to the control group (8.03 ± 2.83 days); however, the difference was not statistically significant (P = 0.821). Furthermore, no patients in both groups died during the study."

I want to hypothesize that the Vitamin C may have limited the blood oxygenating capacity of Vitamin E and thus reduced the effect. Since Vitamin C is a natural antagonist to B12, and B12 is what helps produce the red blood cells needed for oxygen transport, I presume that Vitamin C would be somewhat antagonistic to that oxygenating mechanism. I would request that a similar study be done again with Vitamin E alone while taking into account its effect on the blood oxygen level of those in each group. This request is made for the purposes of looking into methods for improving breathing without the use of medical oxygen equipment, thus freeing up space in hospitals for other emergencies. This is also an attempt to help establish a home-based protocol for those infected by Covid-19, but who are hesitant about vaccination. This study found that Vitamin E and lipoic acid, but not vitamin C improve blood oxygenation https://pubmed.ncbi.nlm.nih.gov/9875229/

Ivermectin and Hydroxychloroqiue has been used with some success in improving symptoms, however, these drugs are not readily available. The effort to continuously find breakthroughs for dealing with shortness of breath and fatigue issues arising from Covid-19 would help reduce the likelihood of oxygen shortages in hospitals.

Vitamin E has been linked to EVALI, e-cigarette or vaping use-associated lung injury a sickness caused by vaping. A number of people have been admitted to the hospitals with significant lung damage. Studies have linked the problem to Vitamin E

Vitamin E Inquiry Request

Acetate. However, I want to point out that there are 2 main forms of Vitamin E. One is alpha-Tocopherol and the other is gamma-Tocopherol. Alpha-tocopherol is associated with better lung function, while gamma-Tocopherol is associated with lower lung function.

A study published in the Journal of Allergy and Clinical Imunology led by Indiana University School of Medicine Professor of Pediatrics Joan Cook-Mills, PhD, and Rajesh Kumar MD researched the effects of different forms of vitamin E on lung development during early childhood. They found that certain forms of Vitamin E have different functions and effects.

"The group analyzed plasma samples from more than 600 pregnant mothers and their children to measure levels of two forms of vitamin E, called alpha- and gamma-tocopherol, and lung function from early to mid-childhood."

Both forms of the vitamin are found in different foods, ranging from breast milk to cooking oils.

They found opposing effects of alpha-tocopherol and gamma-tocopherol. Alpha-tocopherol was associated with better lung function, while gamma-tocopherol was associated with lower lung function.

**Gamma-tocopherol is found in soybean, corn and canola oils.
It is also found in vaping oils. The aforementioned study could point to Vitamin E as gamma-tocopherol as the main component causing lung damage in those sickened with EVALI.**

This vaping issue has possibly curtailed effective research into Vitamin E's effect on Covid symptoms. The Vitamin E that I am positing to have a positive effect on breathing and fatigue issues arising from Covid is d-alpha tocopherol or dl-alpha tocopherol isolated in gel-cap form. The gel-capsule if chewed rather than swallowed could promote a more sure absorption

Vitamin E Inquiry Request

of the Vitamin E. I hope researchers will look into this since unvaccination will be a likely reality leading to widespread surges and accommodation issues.

Bibliography

https://medicine.iu.edu/news/2020/04/Types-of-vitamin-E-consumed-by-children-linked-to-lung-function

https://www.cdc.gov/mmwr/volumes/68/wr/mm6847e1.htm

https://www.gavi.org/vaccineswork/covid-19-vaccine-race

https://en.wikipedia.org/wiki/Pfizer%E2%80%93BioNTech_COVID-19_vaccine

https://www.gavi.org/vaccineswork/there-are-four-types-covid-19-vaccines-heres-how-they-work

https://pubmed.ncbi.nlm.nih.gov/9875229/

https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0217509

Hakamifard A, Soltani R, Maghsoudi A, Rismanbaf A, Aalinezhad M, Tarrahi MJ, Mashayekhbakhsh S, Dolatshahi K. The effect of vitamin E and vitamin C in patients with COVID-19 pneumonia; a randomized controlled clinical trial. Immunopathol Persa. 2021;7(2):e0x. DOI:10.34172/ipp.2021.xx

https://www.cdc.gov/vaccines/covid-19/health-departments/breakthrough-cases.html

Vitamin E Inquiry Request